

REMARKS

Upon receipt of this response, the Examiner is respectfully requested to contact the undersigned representative of the Applicant to arrange a telephone interview concerning the inventive merits of this application.

The drawings are objected to by the Examiner for the reasons noted in the official action, e.g., the failure to show angle β in the drawing. All of the raised drawing objections are believed to be overcome by the new Replacement Sheets of formal drawing(s) which accompany the attached Submission. The drawing amendments being entered are described below. If any further amendment to the drawings is believed necessary, the Examiner is invited to contact the undersigned representative of the Applicant to discuss the same.

Next, claims 5-8 are rejected, under 35 U.S.C. § 103, as being unpatentable in view of Loe et al. '349 (United States Patent No. 6,811,349) and Hayman '877 (United States Patent No. 5,005,877). The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the above amendments and the following remarks.

Loe et al. '349 relates to a retaining ring apparatus which is specifically designed for use in a groove about the outside circumference of a shaft (column 1, lines 6-8). The invention of Loe et al. '349 focuses on overcoming the centrifugal forces applied to a retaining ring that is disposed in a groove, of a rotating shaft, such that the retaining ring is not loosened or expelled from the groove because of the effects caused by rotation of the shaft (Background of the Invention).

The apparatus of Loe et al. '349 includes a rotating shaft 32 having a groove 34 formed in its exterior circumferential surface. A retaining ring 36 is placed in the groove 34 to stop axial movement of a retainer plate 30, which is used to bias an axially slidable piston 16, via a spring 28. When pressurized, the piston 16 axially frictionally engages the two sets of plates 14, 24. As shown taught by Loe et al. '349, the groove 34 has a side wall 40 that is at an angle A relative to a radial direction (see Fig. 2 and column 2, lines 28-30, for example). The retaining ring 36 also has a side wall 46 that is at an angle B relative to the radial direction (see Figs. 4 and 5 and column. 2, lines 35-36, for example). The angles A, B of these walls 40, 46 are the

same such that, as shown in Fig. 1, when an axial force is applied to the retaining ring 36 these two walls 40, 46 abut with one another.

It should be noted that Loe et al. '349 specifically teaches, with reference to the above configuration of the groove 34, that "the opening at an outer surface 42 of the shaft 32 is narrower than a radially inner circumferential surface 44 of the groove 34" (column 2, lines 30-32). In addition, the shaft 32, which was designated as the "complementary profile" 32 by the Examiner in the raised rejection, is in fact the shaft which would appear to be the equivalent of the disk carrier 1 and this shaft 32 does not have any "complementary profile" for supporting and facilitating rotation of a disk packet (3) with the disk carrier (1). The retainer plate 30 is sandwiched between the retaining ring 36 and the piston 16 both of which rotate with the shaft such that the retainer plate 30 rotates with the shaft 32. As a result of this, it is respectfully submitted that there is no actual direct communication or engagement between the shaft 32 and the retainer plate 30. The Applicant acknowledges that Loe et al. '349 also fails to disclose that the first groove side is parallel to the second groove side.

Turning now to Hayman '877, this reference relates to a quick connect/disconnect fluid coupling. This coupling 70 includes a male half 74, a female half 72 and a number of locking body segments 82 (see Fig. 5). Each of these locking body segments 82 are located and normally retained in a position between the male half 74 and the female half 72 by an elastic O-ring 84. In this position, a portion of the locking body segments 82 extend into a channel 78 in the female half 72 and a portion extends into a channel in the male half 74, such that the male and female halves 74, 72 become axially locked. To unlock the male and female halves 74, 72 from one another, one axially slides a releasing member 86, which pushes the locking body segments 82 out of the channel in the male half 74 and into the channel in the female half 72.

The channel 78 extends at a 45 degree into the female half 72 with respect to the centerline through the coupling. At this angle, the locking body segments 82 are more easily biased by the releasing member 86 out of the position in which the male and female halves 74, 72 are axially locked.

As the applied references appear to be unrelated to one another as well as the presently claimed invention, the Applicant respectfully submits that the raised obviousness rejection appears to be improperly based upon hindsight reasoning. In particular, Loe et al. `349 relates to using a retaining ring 36 and a groove 34, each with a surface 46 and 40, respectively, that is at an angle relative to a radial direction. The angle of these surfaces 46, 40 is the same so that these surfaces 46, 40 will mate with one another such that, upon rotation of the retaining apparatus, the retaining ring 36 will be more resistant to centrifugal force (see column 1, lines 44-46). That is, those surfaces 46, 40 are angled to prevent any radial expansion of the retaining C-ring 36 away from the rotation shaft 32 out of the groove 34 during rotation of the shaft 32.

Totally unrelated to this, Hayman `877 relates to using locking body segments 82 and a groove 78 in an assembly of a quick connect/disconnect fluid coupling—this has nothing to do with a retaining ring for a shaft or a disc carrier. The groove 78 is angled such that *the locking body segments 82 are more easily radially expanded enabling easier locking and unlocking of the male and female halves 74, 72 of the coupling 70* (column 6, lines 47-53). The Applicant respectfully submits that one of ordinary skill in the art would not be motivated in any manner to combine the teachings of Loe et al. `349, which arguably somewhat related to the presently claimed invention, with the teaching of Hayman `877, which is completely unrelated to both the presently claimed invention and Loe et al. `349, especially in the manner alleged by the Examiner.

In addition to the above, the Applicant respectfully submits asserts that the references of Loe et al. `349 and Hayman `877, either alone or in any permissible combination with one another, are vastly different from the presently claimed invention. Neither of the references in any way teach “[a] disk carrier (1) with a complementary profile (2) supporting and facilitating rotating of a disk packet (3) with the disk carrier (1), the disk packet (3) being axially affixed by a snap ring (4) inserted in a groove (5) formed in the disk carrier (1) adjacent the complementary profile (2), the groove (5) being located on a radially inwardly facing circumferential surface of the disk carrier (1) and having an internal circumferential surface (5a) and two opposed groove sides (5b, 5c), the snap ring (4) having two opposed flat faces (4a,

4b), a first groove side (5b) of the groove (5) which abuts against the snap ring (4) having an undercut with a first angle of inclination (α), the first groove side (5b) being parallel to a second groove side (5c), the groove (5) being made by stamping to provide a slanted surface at the first angle of inclination (α) with reference to a radial plane (E), the two opposed flat surfaces (4a, 4b) of the snap ring (4) being conically inclined with respect to one another at a second angle of inclination (β), the second angle of inclination (β) being greater than the first angle of inclination (α) and a maximum width (a) of the snap ring (4) is located adjacent the internal circumferential surface (5a) of the groove (5)."

New independent claims 9 and 13 recite somewhat similar limitations but, in independent claim 9, the groove (5) is not specifically recited as being located on a radially "inwardly facing circumferential surface" of the disk carrier (1), i.e., this claim covers both possibilities, namely, either the inwardly facing or the outwardly facing surface of the disk carrier 1. The above claimed features are believed to clearly and patentably distinguish the presently claimed invention from all of the art of record, including the applied art.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejections should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Loe et al. et al. '349 and/or Hayman '877 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

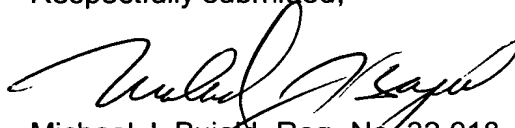
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In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



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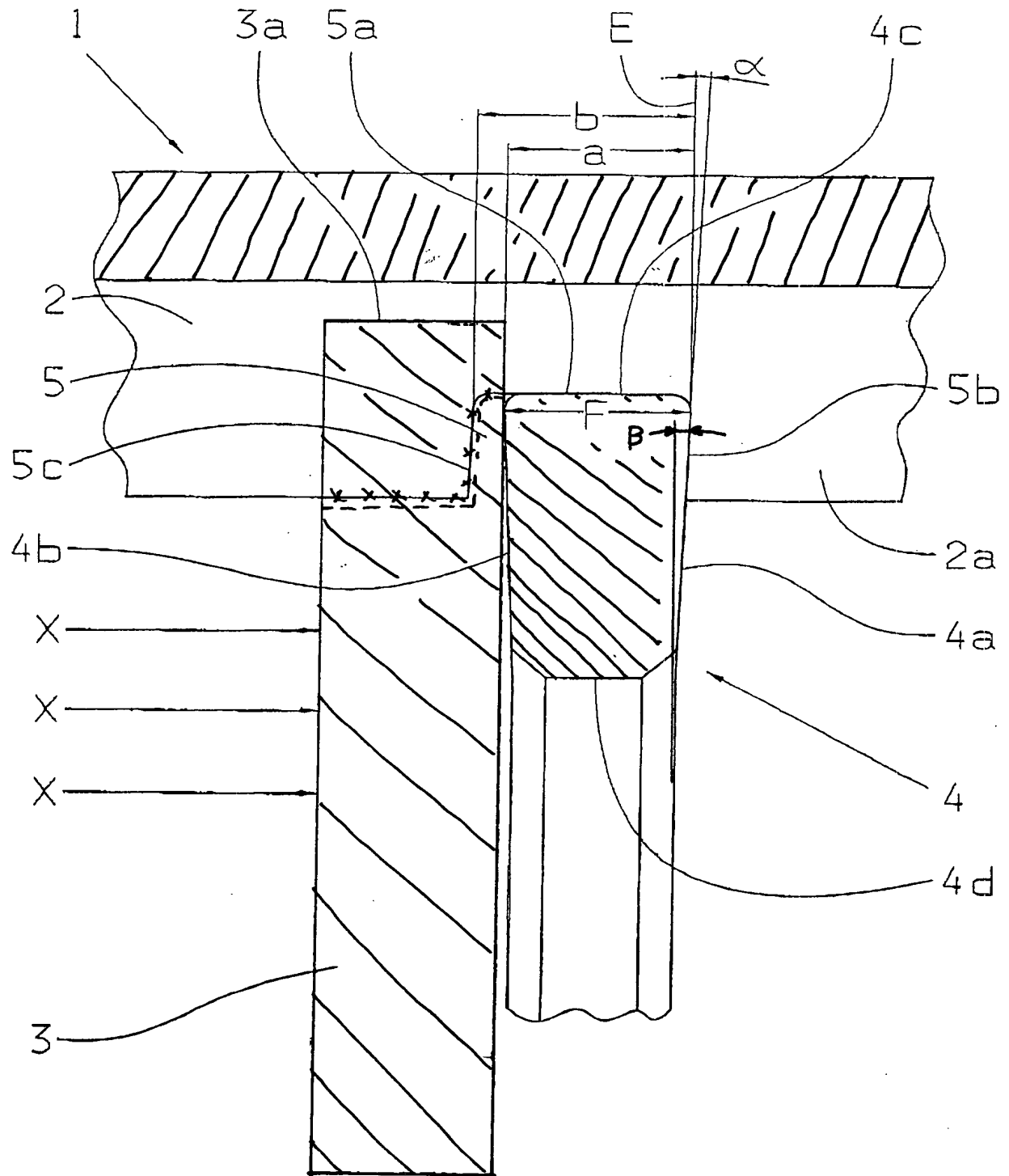


Fig. 1